

Date:

Grade 7: Math

2.5 Variables - Substitution

- In an algebraic expression, we can assign the variables any numbers of our choice or relevant to the problem.
This is called *substitution*.

- **Example 1:** Henry hires an electrician who charges \$30 for a visit and \$15/hour for a job. The cost of hiring the electrician for t hours will be:
$$30+15t$$
- What is the cost of hiring the electrician for 2 hours?

- What is the cost of hiring the electrician for 5 hours?

- **Example 2:** Mr. T wants throw the grade 7 students a trampoline party. The cost of installing a trampoline is \$60 and renting it is \$8 per hour. The cost of renting a trampoline for n hours is:
$$60+8n$$
- What is the cost of renting a trampoline for 4 hours?

- What is the cost of renting a trampoline for 30 minutes?

- **Example 3:** TPS organized a school excursion to the zoo. Twenty students travelled by the school van and the rest travelled by eight rented buses. If each bus carried n number of students, the total number of students who went for the trip is :
$$20+8n$$
- If each bus carried 15 students how many students travelled to the zoo?

- If each bus carried 20 students how many students travelled to the zoo?

- **Example 4:** Jane bought a magazine for \$3 and five toothbrushes from a store. If the cost of a toothbrush is x dollars, her total cost is:

$$3 + 5x$$

- If each toothbrush costs \$1.50, what is Jane's total cost?
- If each toothbrush costs \$0.70, what is Jane's total cost?
- **Example 5:** Tim bought some magazines and a toothbrush from a store. If the cost of a toothbrush is \$2, a magazine costs \$7 and he buys n number of magazines, his total cost is:
$$2 + 7n$$
- If Tim buys 5 magazines how much does he pay at the counter?
- If Tim buys 8 magazines how much does he pay at the counter?

- **Homework:** Textbook page 385-386 #1-3, 4a), 5, 8a)